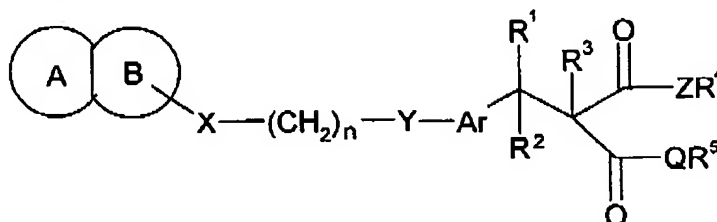


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In the Claims:

1. (Currently Amended) A compound of formula I prepared for administration



(I)

wherein

ring A, fused to ring B, represents a [[5-]] 6 membered cyclic ring, which may optionally contain one [[or more heteroatoms selected from oxygen, sulfur or]] nitrogen atom[[s]] and may optionally be substituted with one or more [[halogen, hydroxy, nitro, cyano,]] alkyl [[, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino]]; the ring A may be saturated or aromatic [[contain one or more double bonds]];

ring B, fused to ring A, is a benzene ring [[represents a 5-6 membered cyclic ring, which may optionally contain one or more heteroatoms selected from oxygen, sulfur or nitrogen atoms and may optionally be substituted with one or more halogen, hydroxy, nitro, cyano, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino]; the ring B may be saturated or contain one or more double bonds or may be aromatic]];

X and Y are independently O [[, S, or NR<sup>6</sup> wherein R<sup>6</sup> represents hydrogen or C<sub>1-3</sub> alkyl]];

Z represents O [[, S,]] or [[NR<sup>7</sup> wherein R<sup>7</sup>]] NR<sup>6</sup> wherein R<sup>6</sup> represents hydrogen or alkyl [[, aryl, or arylalkyl]];

Q represents O [[, S,]] or NR<sup>7</sup> wherein R<sup>7</sup> represents hydrogen or alkyl [[, aryl, or arylalkyl]];

R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are independently H or alkyl [[, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, OH,

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halogen, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino]];

R<sup>4</sup>, R<sup>5</sup> are independently H or alkyl [[, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, heterocyclyl, aryl, or heteroaryl]];

Ar represents benzene [[arylene, hetero arylene, or a divalent heterocyclic group each of which can optionally be substituted with one or more halogen, C<sub>1-6</sub> alkyl, amino, hydroxy, C<sub>1-6</sub> alkoxy or aryl]]; and

n is an integer ranging from 1 to 6.

2. (Currently Amended) The compound of claim 1, wherein

[[ring A is a 6-membered cyclic ring;

ring B is a 6-membered aromatic ring;

X and Y are independently O;

Z is O or NR<sup>7</sup> wherein R<sup>7</sup> represents hydrogen, alkyl, aryl, or arylalkyl;

Q is O or NR<sup>7</sup> wherein R<sup>7</sup> represents hydrogen, alkyl, aryl, or arylalkyl;

R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are independently H or alkyl;

R<sup>4</sup> and R<sup>5</sup> are independently H or alkyl;

Ar is an arylene group;]]

n is 2[[;]].

3. (Currently Amended) The compound of claim 1, wherein

[[ring A is a 6-membered cyclic ring;

ring B is benzene ring;

X and Y are independently O;

Z is O or NR<sup>7</sup> wherein R<sup>7</sup> represents hydrogen;]]

Q is O or NR<sup>7</sup> wherein R<sup>7</sup> represents hydrogen;

R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are independently H;

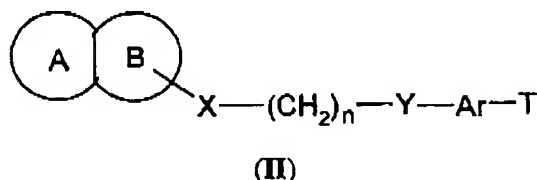
R<sup>4</sup> and R<sup>5</sup> are independently H or methyl;

Ar is benzene group;

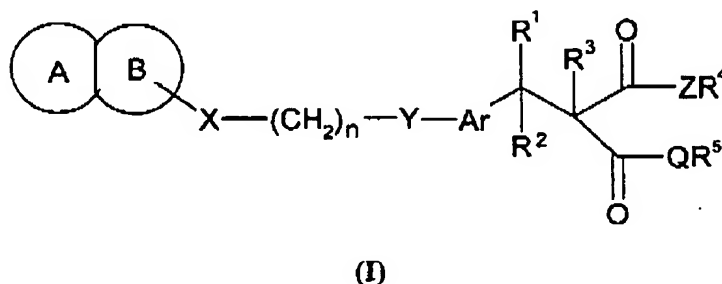
n is 2[[;]].

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4. (Original) A compound of formula II wherein  
 ring A, ring B, X, Y, Ar and n are as defined in claim 1, and T is -CHO or -  
 $R^1C=C(COOMe)_2$  wherein  $R^1$  is as defined in claim 1.



5. (Currently Amended) The compound according to claim 4 wherein:  
 [[ring A is a 6-membered cyclic ring;  
 ring B is benzene ring;  
 X and Y are independently O;  
 Ar is benzene group;]]  
 n is 2[[:]].
6. (Currently Amended) A process for the preparation of a compound according to claim 1  
 [[of formula I



wherein

ring A, fused to ring B, represents a 5-6 membered cyclic ring, which may optionally contain one or more heteroatoms selected from oxygen, sulfur or nitrogen atoms and may optionally be substituted with one or more halogen, hydroxy, nitro, cyano, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy,

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heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino; the ring A may be saturated or contain one or more double bonds;

ring B, fused to ring A, represents a 5-6 membered cyclic ring, which may optionally contain one or more heteroatoms selected from oxygen, sulfur or nitrogen atoms and may optionally be substituted with one or more halogen, hydroxy, nitro, cyano, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino; the ring B may be saturated or contain one or more double bonds or may be aromatic;

X and Y are independently O, S, or  $\text{NR}^6$  wherein  $\text{R}^6$  represents hydrogen or  $\text{C}_{1-3}$  alkyl;

Z represents O, S, or  $\text{NR}^7$  wherein  $\text{R}^7$  represents hydrogen, alkyl, aryl, or arylalkyl;

Q represents O, S, or  $\text{NR}^7$  wherein  $\text{R}^7$  represents hydrogen, alkyl, aryl, or arylalkyl;

$\text{R}^1$ ,  $\text{R}^2$  and  $\text{R}^3$  are independently H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, OH, halogen, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino;

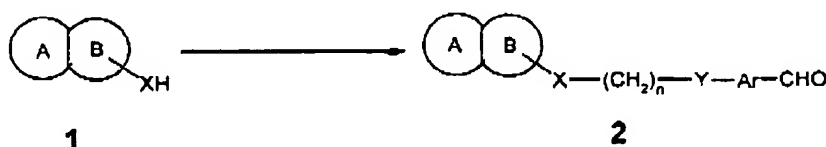
$\text{R}^4$ ,  $\text{R}^5$  are independently H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, heterocyclyl, aryl, or heteroaryl;

Ar represents arylene, hetero arylene, or a divalent heterocyclic group each of which can optionally be substituted with one or more halogen,  $\text{C}_{1-6}$  alkyl, amino, hydroxy,  $\text{C}_{1-6}$  alkoxy or aryl;

n is an integer ranging from 1 to 6;]]

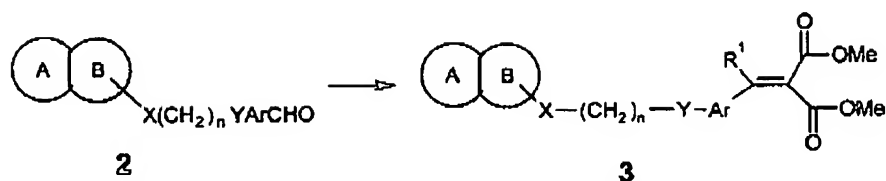
A stereoisomer, enantiomer, diastereomer, hydrate or pharmaceutically acceptable salt thereof comprising the steps of:

a) changing the compound of formula 1 to the benzaldehyde derivative 2;

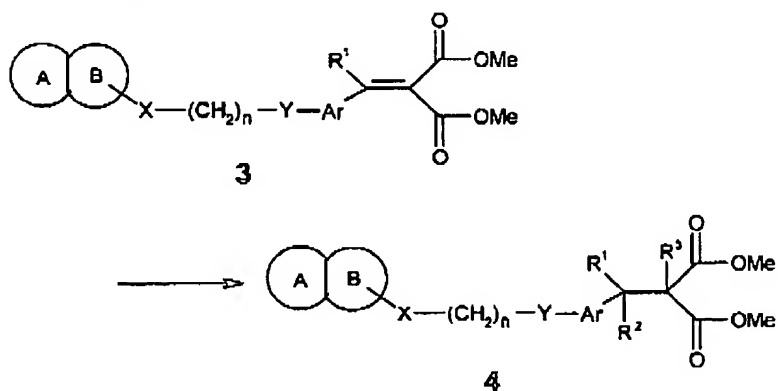


b) changing the aldehyde 2 to the benzylidene 3 by Knoevenagel condensation;

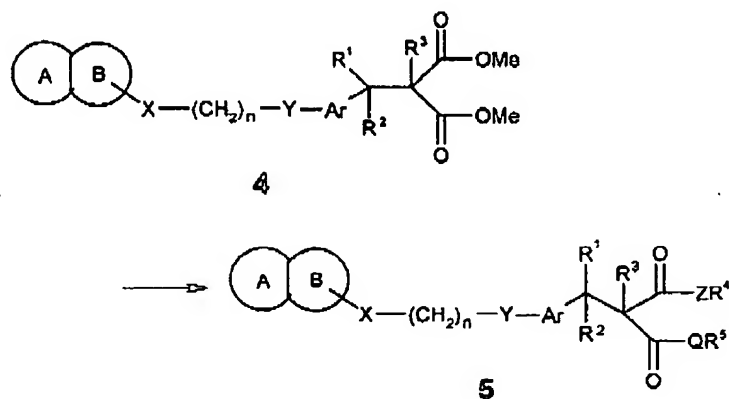
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c) obtaining the dimethyl malonate 4 by catalytic hydrogenation of 3;



d) changing the dimethyl malonate 4 to other 1,3-dicarbonyl compounds 5.



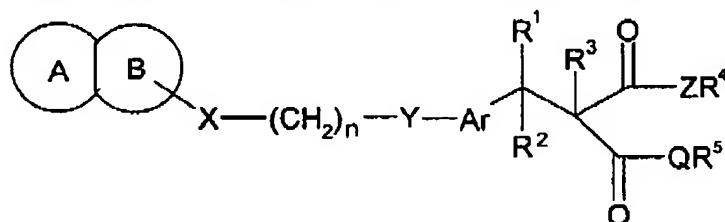
7. (Original) The process according to claim 6 wherein:

- (a) the benzaldehyde derivative 2 is prepared by the reaction of compound 1 with p-bromoethoxy benzaldehyde in the presence of potassium hydroxide;

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- (b) the Knoevenagel condensation is achieved by treating the benzaldehyde 2 with dimethyl malonate in the presence of a catalytic quantity of piperidinium acetate;
- (c) the catalytic hydrogenation is achieved by treating the benzyldiene 3 with H<sub>2</sub> in the presence of 5% palladium on carbon;
- (d) the other 1,3-dicarbonyl compounds 5 are prepared from 4 by hydrolysis or other conventional reactions.

8. (Currently Amended) A pharmaceutical composition for activating nuclear receptors comprising an effective amount of a compound according to claim 1 [[of formula I



(I)

wherein

ring A, fused to ring B, represents a 5-6 membered cyclic ring, which may optionally contain one or more heteroatoms selected from oxygen, sulfur or nitrogen atoms and may optionally be substituted with one or more halogen, hydroxy, nitro, cyano, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino; the ring A may be saturated or contain one or more double bonds;

ring B, fused to ring A, represents a 5-6 membered cyclic ring, which may optionally contain one or more heteroatoms selected from oxygen, sulfur or nitrogen atoms and may optionally be substituted with one or more halogen, hydroxy, nitro, cyano, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino; the ring B may be saturated or contain one or more double bonds or may be aromatic;

X and Y are independently O, S, or NR<sup>6</sup> wherein R<sup>6</sup> represents hydrogen or C<sub>1-3</sub> alkyl;

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Z represents O, S, or NR<sup>7</sup> wherein R<sup>7</sup> represents hydrogen, alkyl, aryl, or arylalkyl;

Q represents O, S, or NR<sup>7</sup> wherein R<sup>7</sup> represents hydrogen, alkyl, aryl, or arylalkyl;

R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are independently H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, OH, halogen, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino;

R<sup>4</sup>, R<sup>5</sup> are independently H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, heterocyclyl, aryl, or heteroaryl;

Ar represents arylene, hetero arylene, or a divalent heterocyclic group each of which can optionally be substituted with one or more halogen, C<sub>1-6</sub> alkyl, amino, hydroxy, C<sub>1-6</sub> alkoxy or aryl;

n is an integer ranging from 1 to 6; and]]

wherein the composition further comprises one or more pharmaceutically acceptable excipients, carriers or diluents.

9. (Original) The pharmaceutical composition according to claim 8, wherein the nuclear receptors comprise the Retinoid X Receptor (RXR), and the Peroxisome Proliferator-Activated Receptors (PPAR).

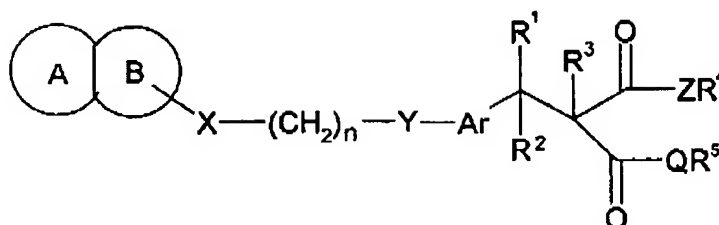
10. (Original) The pharmaceutical composition of claim 9 in unit dosage form, comprising from about 0.05 to about 100 mg of the active compound.

11. (Original) The pharmaceutical composition of claim 10 in unit dosage form, comprising from about 0.1 to about 50 mg of the active compound

12. (Original) The pharmaceutical composition of claim 9 which is suitable for administration by an oral, nasal, transdermal, pulmonary, or parenteral route.

13. (Currently Amended) A method of treating [[or preventing]] a condition mediated by at least one Peroxisome Proliferator-Activated Receptor (PPAR), comprising administering to a subject in need thereof an effective amount of a compound according to claim 1 [[of formula I

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(I)

wherein

ring A, fused to ring B, represents a 5-6 membered cyclic ring, which may optionally contain one or more heteroatoms selected from oxygen, sulfur or nitrogen atoms and may optionally be substituted with one or more halogen, hydroxy, nitro, cyano, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino; the ring A may be saturated or contain one or more double bonds;

ring B, fused to ring A, represents a 5-6 membered cyclic ring, which may optionally contain one or more heteroatoms selected from oxygen, sulfur or nitrogen atoms and may optionally be substituted with one or more halogen, hydroxy, nitro, cyano, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino; the ring B may be saturated or contain one or more double bonds or may be aromatic;

X and Y are independently O, S, or NR<sup>6</sup> wherein R<sup>6</sup> represents hydrogen or C<sub>1-3</sub> alkyl;

Z represents O, S, or NR<sup>7</sup> wherein R<sup>7</sup> represents hydrogen, alkyl, aryl, or arylalkyl;

Q represents O, S, or NR<sup>7</sup> wherein R<sup>7</sup> represents hydrogen, alkyl, aryl, or arylalkyl;

R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are independently H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, hydroxyalkyl, thioalkyl, heterocyclyl, OH, halogen, alkoxy, aryl, aryloxy, aralkoxy, heteroaryl, heteroaryloxy, heteroaralkoxy, acyl, acyloxy, amino, alkylamino, arylamino, or aralkylamino;

R<sup>4</sup>, R<sup>5</sup> are independently H, alkyl, alkenyl, alkenynyl, aralkyl, heteroarylalkyl, heterocyclyl, aryl, or heteroaryl;



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Ar represents arylene, hetero arylene, or a divalent heterocyclic group each of which can optionally be substituted with one or more halogen, C<sub>1-6</sub> alkyl, amino, hydroxy, C<sub>1-6</sub> alkoxy or aryl; and

n is an integer ranging from 1 to 6]].

**14-16. (Canceled)**

**17. (Currently Amended)** A method according to claim 13 wherein [[said]] at least one condition is selected from the group consisting of [[type 1 diabetes,]] type 2 diabetes, dyslipidemia, [[syndrome X, cardiovascular disease, atherosclerosis, hypercholesteremia,]] and obesity.

**18. (Previously Amended)** The method according to claim 17, wherein the effective amount of the compound is in the range of from about 0.05 to about 100 mg/kg body weight per day.

**19. (Previously Amended)** The method according to claim 17, wherein the effective amount of the compound is in the range of from about 0.1 to about 50 mg/kg body weight per day.

\* \* \*